Egidio F. Tentori, Ph.D., E.I.T.

Senior Environmental Engineer

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(he/him)

Dr. Tentori is a senior environmental engineer with experience in site characterization, environmental chemistry, microbiology, and greenhouse gases. He has contributed to a range of projects nationwide, including remedial solutions at chemical and petrochemical facilities, industrial landfills, manufacturing plants, and Superfund sites. Prior to joining Gradient, Dr. Tentori was a graduate research assistant at Cornell University, where he studied links between microbial greenhouse gas cycling and key microbial biomarker genes, and removal of methane and nitrogen from anaerobic digestion wastewaters using membrane bioreactors. Dr. Tentori also has a background in treatment of polycyclic aromatic hydrocarbons (PAHs) and mathematical modeling, and experience in fieldwork and environmental sampling techniques.

Areas of Expertise

- Site Characterization
- Environmental Chemistry
- Microbiology
- Greenhouse Gases
- Mathematical Modeling
- Contaminant Fate & Transport
- Source Identification

Education

- Ph.D., Environmental Engineering, Cornell University
- M.S., Environmental Engineering, Rensselaer Polytechnic Institute
- B.S., Environmental Engineering, Rensselaer Polytechnic Institute

Selected Projects

State-of-Knowledge Assessment: Reviewed available historical state-of-knowledge literature of contaminant fate and transport in natural waters and the pollution of natural waters, particularly with regard to per- and polyfluoroalkyl substances (PFAS) and aqueous film-forming foam (AFFF).

PFAS Analysis: Performed document review to understand PFAS contamination and its extent at multiple locations throughout the US. Gathered, reviewed, and analyzed sampling data and concentration measurements to identify potential source locations. Reviewed and analyzed regional and site-specific geology and hydrogeology information to better understand the potential fate and transport of certain PFAS chemicals.

Vapor Intrusion Analysis: Evaluated potential vapor intrusion at various former manufactured gas distribution holder sites in midwestern and western states. Reviewed and analyzed soil gas data from multiple site-specific vapor intrusion investigation reports to identify key trends and information across all sites. Summarized data trends and developed recommendations for potential next steps.

PCB Fate and Transport Evaluation: Evaluated PCB sources, fate, and transport near a community in the eastern US, considering air, water, soil, and sediment analytical data and transport pathways.

Contamination Analysis: Evaluated potential sources of PFAS contamination along a major US river.

Human Health Risk Assessment: Evaluated the potential human health risks from exposure to contamination in water associated with the disposal of wastewater in deep injection wells.

Groundwater Assessment: Reviewed scientific literature site documents to better understand groundwater flow within a leaky multi-unit aquifer system.

Selected Publications and Presentations

Tentori, EF; Wang, N; Devin, CJ; Richardson, RE. In preparation. "Performance of membrane biofilm reactors for the treatment of methane- and ammonium-rich wastewaters at different membrane oxygen pressures."

Tentori, EF; Fang, S; Richardson, RE. 2022. "RNA biomarker trends across type I and type II aerobic methanotrophs in response to methane oxidation rates and transcriptome response to short-term methane and oxygen limitation in Methylomicrobium album BG8." *Microbiol Spectr*. 10(3):e0000322. doi:10.1128/spectrum.00003-22.

Tentori, EF; Ashenafi, EL; Urschel, MR; Nyman, MC. 2021. "Peroxy-acid treatment of polycyclic aromatic hydrocarbons: Degradation kinetics, thermodynamics, and predictive modeling." *J. Environ. Eng*. 147(11):04021053, doi:10.1061/(ASCE)EE.1943-7870.0001924.

Herman, K; Rice, JW; **Tentori, EF.** 2022. "Key Findings Regarding Soil Gas Sampling at Former Manufactured Gas Distribution Holder Sites." Presented at the Manufactured Gas Plant (MGP) Conference 2022, Rosemont, IL, September 28-30.